F7100139

Flash Sheet No. KSC 66-12

NEW TECHNOLOGY REPORT

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KENNEDY TM-

TITLE: Emergency Escape System

BRIEF DESCRIPTION: The emergency escape system is a means for evacuating personnel from tall structures, especially where the possibility of explosion or fire exists.

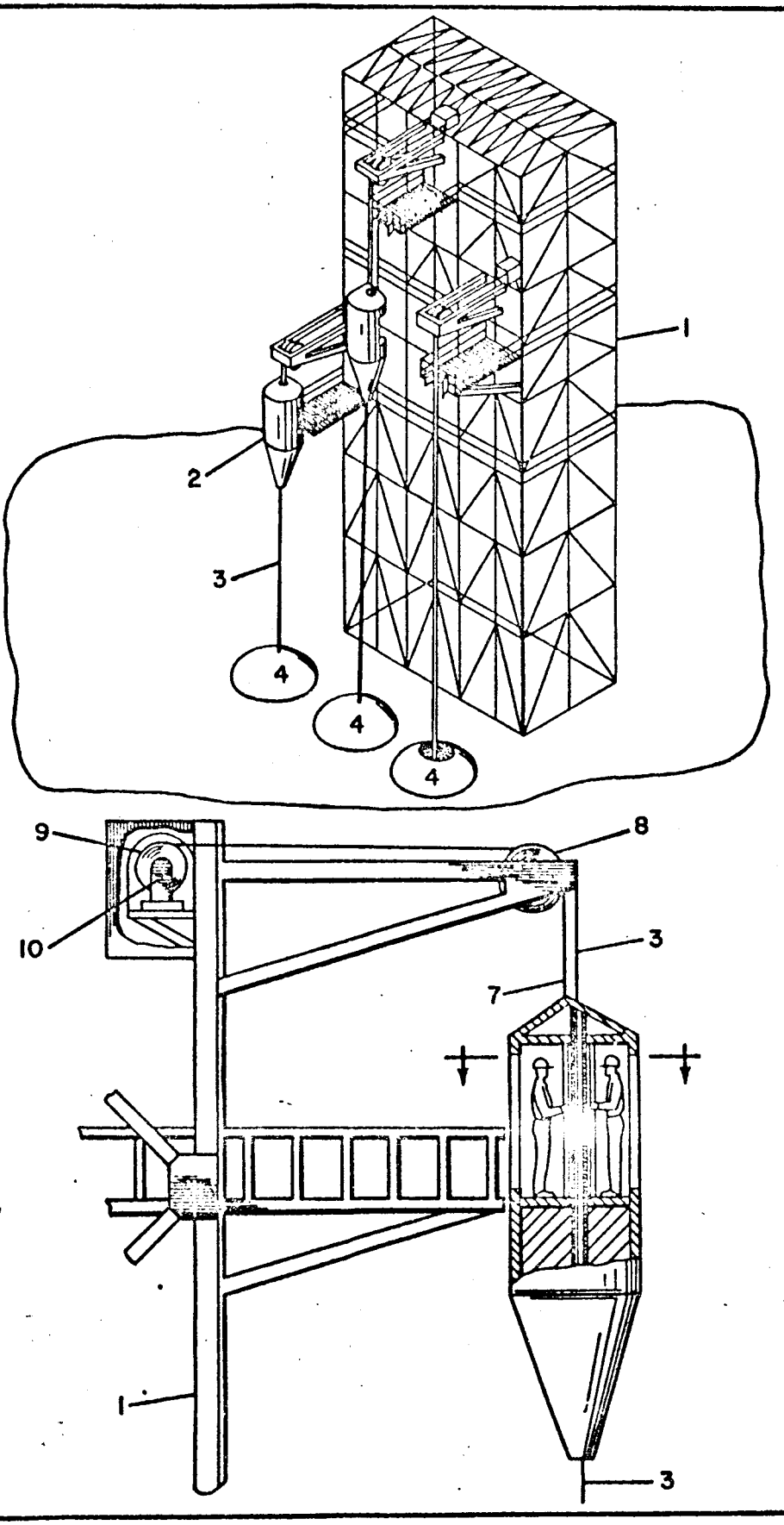
DETAIL DESCRIPTION: This system was designed for emergency escape from launch complex gantries and servicing structures. The high energy propellants used in launch vehicles present an explosive hazard that precludes the use of conventional escape devices and methods, such as fire escape stairs or ladders.

In an emergency, personnel evacuate the structure (1) in a rescue cabin (2), which descends along a vertical guide cable (3). The spike shaped cabin penetrates the dome shaped roof (4) of an underground blast shelter (5) and is brought to rest in a deceleration bed (6) of gravel, wheat or other granular material. Personnel depart the shelter through a tunnel.

The rescue cabin is secured at the top of the structure by a hoist cable (7). The cable passes over a pulley (8) and is attached at the opposite end to a hoist drum and motor (9). A speed control brake (10) on the drum holds the cabin in place prior to use and controls cabin descent speed during emergency operations. A control lever (11) in the rescue cabin releases the brake for descent.

The dome shaped roof of the blast shelter keeps liquids burning on the ground from entering the shelter. The roof also prevents combustible materials from dropping into the shelter prior to cabin penetration. The opening, resulting from cabin penetration, is essentially the same size as the cabin cross section, since the roof is constructed of material having a low maximum shearing stress.

APPLICATIONS: The emergency escape system may be used on any tall structure that might require rapid evacuation in a critical situation.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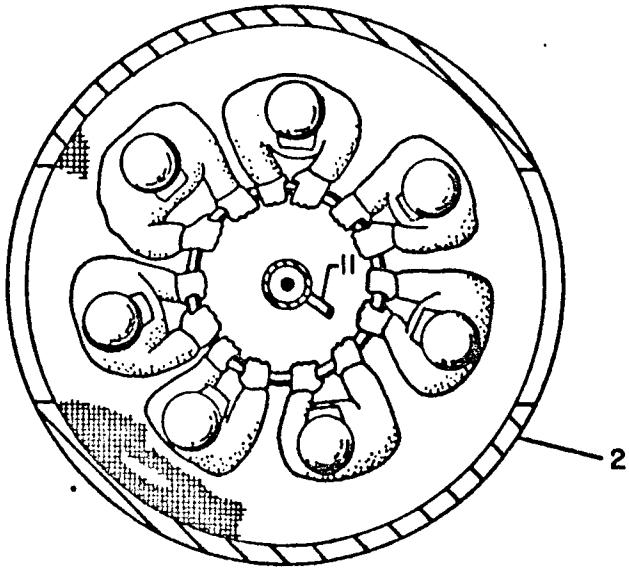
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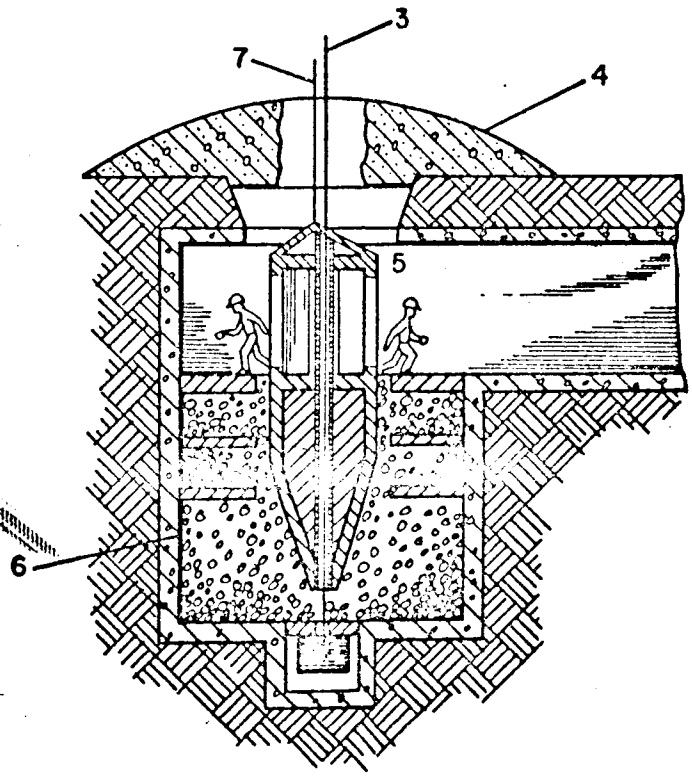
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